explains cardiovascular disease in patients with end stage renal disease. The purpose of this study was to estimate the association between CRP and both carotid and femoral IMT in hemodialysis (HD) patients. The present cross-sectional study is nested in the **S**evelamer hydrochloride and **u**ltrasound-**m**easured femoral and carotid intima **m**edia thickness progression in **e**nd stage **r**enal disease (SUMMER) clinical trial. Carotid (common, internal and bifurcation) and femoral arteries were visualized in B-mode ultrasonography. CRP was measured in serum. The study cohort included 177 HD patients (39.5% female, mean age 67.8 ± 11.5 years). All measures of both carotid and femoral IMT were significantly, positively associated with CRP. Compared to subjects without, subjects with PVD, coronary revascularization and hypertension had significantly higher CRP levels. Conversely, subjects treated with sevelamer hydrochloride had significantly lower CRP levels than those not exposed to this medication. CRP was significantly, positively associated with serum phosphorus, calcium and PTH, and significantly inversely associated with HDL. In conclusion, CRP is significantly, positively associated with both femoral and carotid IMT and suggests an association between inflammation and atherosclerosis in HD patients.

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CONTRIBUTION OF COGNITIVE INTERFERENCE TO DECREMENTS IN WALKING PERFORMANCE IN HEMODIALYSIS PATIENTS

Ken Wilund, Sunghoon Shin, Hae Ryong Chung, Brandon Kistler, Peter Fitschen, Jake Sosnoff
University of Illinois, Urbana, IL, USA.

Patients with advanced CKD have impaired walking function that predisposes them to falls and disability. Deficits in walking function are traditionally ascribed to declines in physical function. However, walking impairment in certain clinical populations may also result from a phenomenon known as cognitive-motor interference. This is characterized by reductions in motor task performance (e.g., walking speed) when simultaneously performing a cognitive task, and is termed a dual task cost (DTC). The purpose of this study was to compare the contribution of cognitive interference to decrements in walking performance in hemodialysis patients and healthy controls.

14 hemodialysis patients (10M,4F, age=48.5+/-11.8) and 14 age-matched healthy controls (9M, 5F, age=48.5+/- 10.1) participated. Each completed a walking task in a control and dual task condition. The walking task involved walking at a comfortable pace 4 times across a 26'GAITRite ™ mat. The first 2 trials were completed with no cognitive task and the last 2 trials with a simultaneous task that consisted of generating a modified word list. Walking performance was quantified with normalized gait speed, step length, base of support, and step time. DTC was determined for each variable as the % difference in performance between the single task and dual task.

Major metrics of walking function under standard conditions were impaired by 20-40% in hemodialysis patients vs controls ($p < 0.05$ for each.). In addition, CKD patients had a greater DTC for velocity, cadence, step time and double support, than the control group ($p < 0.05$), and trends for greater DTC for step length and width ($p = 0.07$).

These data indicate that walking impairments in hemodialysis patients are not due exclusively to declines in physical function, but that cognitive-motor interference also plays a significant role. This has significant clinical importance, as therapies designed to improve walking performance and physical function, such as nutritional and exercise interventions, may need to be augmented with cognitive training in order to have maximum benefits.

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PHOSPHORUS IN THE DIET AND PRAGMATIC ISSUES FROM THE FOOD INDUSTRY

Ray Winger
Inside Foods Ltd, Pangbourne, United Kingdom; Lyn Lloyd, Auckland City Hospital, Auckland, New Zealand; Jaime Uribarri, The Mount Sinai School of Medicine, New York, NY, USA.

The food industry over the last decade has undergone a major transformation in the way they manufacture food, often to the detriment of nutritional paradigms. Two key components are pivotal to many of these changes: salt and phosphate food additives. Traditional databases of food composition, especially for processed foods, are no longer relevant. Phosphorus levels in foods aren't required to be on labels and are rarely provided. Phosphorus-containing food additives are widely used in all types of foods, often where they have never been seen before. It is common practice to relate phosphorus content in food closely to protein value. This can only be reliable for unprocessed raw materials. Any processed foods may have phosphorus additives which will not be evident on the labels and protein is measured by Kjeldahl nitrogen, which falsely assumes all nitrogen in foods is protein-related. The reality and future directions of the food industry need to be taken into account when making nutritional recommendations. The way forward is to understand the challenges the food industry faces and work with them to elucidate the problems and seek solutions.

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APPLICATION OF LEAN METHODOLOGY PRESCRIPTION OF NUTRITION SUPPLEMENTS ASMEDICATION BY DIETITIANS

J Woods [1], M.A. Silvers [1], R. Raja [1], A.M. Gordon [1], M.K. Inkstera [1], J. McDonald [2,3]
[1] *Department of Dietetics, Monash Medical Centre, Australia*
[2] *Department of Dietetics, Royal Childrens Hospital, Australia*
[3] *Department of Dietetics, Royal Melbourne Hospital, Australia*

In a major Victorian hospital, dietitians observed that requests tomedical staff to prescribe nutritional supplements via themedication chart were inefficient. This led to delays in the deliveryof nutritional recommendations, thus compromising patients'nutritional status. *Lean Methodology* was applied to simplify theordering of patients' nutritional supplements as medication(NSAM) by dietitians. A literature review was conducted. Directobservation and value stream mapping were used to identifyprocess time and wasted time related to NSAM prescription. Adetailed root cause analysis of identified issues was undertaken,followed by the development of an implementation plan. Thefollowing problems were identified: ordering process wascomplicated and not linear, delay in patient receiving NSAM (2.8days, range 0–23 days), and 60% repeat requests by the dietitian forNSAM. An implementation plan was developed which included:submission to the Medical Executive Committee to seekprescribing privileges for dietitians; dietetic competency trainingand credentialing, communication strategy, development ofprescribing and administering procedures; and ward education.Dietetic prescribing privileges were granted, implemented, andevaluation of this change in dietetic practice undertaken. Inconclusion, application of Lean Methodology enabled dietitians toclearly examine, in a systematic manner, delays, risks andinefficiencies with our current process of ordering NSAM. It led toa plan of action to improve quality of care to our patients, includingrenal patients, and reduce waste in our health care setting by timelyand appropriate commencement of NSAM.

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THE EXPRESSION PROFILING OF INTESTINAL NUTRIENT TRANSPORTER GENES IN RATS WITH RENAL FAILURE

Hironori Yamamoto, Hiroko Kikuchi, Mari Nakao, Otoki Nakahashi, Sarasa Tanaka, Yutaka Taketani, Eiji Takeda
Department of Clinical Nutrition, University of Tokushima, Tokushima, Japan

The understanding of intestinal function in chronic kidney disease (CKD) has been important elements in the clinical management of CKD with dietary and drug therapy.

Numerous studies have indicated that CKD patients or model rats have enzymatic abnormalities and impairments of absorptive function in the small intestine. However, it

has been still unclear how different of the intestinal function in CKD. In this study, we demonstrated the microarray analysis of global gene expression in intestine of adenine-induced CKD rat. DNA microarray analysis using Affymextrix rat gene chip revealed that CKD caused great changes in gene expression in the rat duodenum: about 400 genes exhibited more than a two-fold change in expression level. Gene ontology analysis showed that a global regulation of genes by CKD involved in iron ion binding, alcoholic, organic acid and lipid metabolism. Furthermore, we found markedly changes of a number of intestinal transporters gene expression related to iron metabolism. These results suggest that CKD may alter some nutrient metabolism in the small intestine by modifying the expression of specific genes. The intestinal transcriptome database of CKD might be useful to develop the novel drugs or functional foods for CKD patients.

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